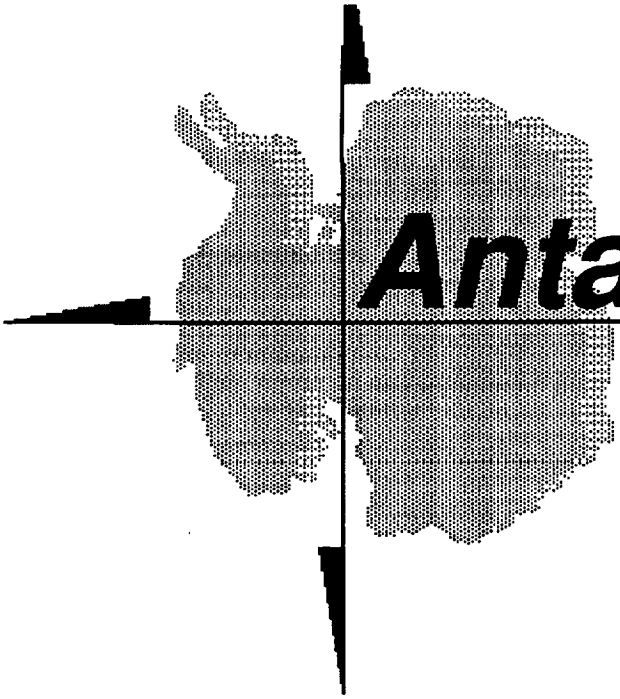

Antarctic Meteorite NEWSLETTER

INSIDE THIS ISSUE:

Volume 17
Number 3

August 1994

A periodical issued by the Meteorite Working Group to inform scientists of the basic characteristics of specimens recovered in the Antarctic.

Edited by Roberta Score and Marilyn Lindstrom
Code SN2, NASA
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SAMPLE REQUEST DEADLINE:
September 16, 1994

MWG MEETS October 7-8, 1994

SAMPLE REQUEST GUIDELINES

All sample requests should be made in writing to:

Secretary, MWG
SN2/Office of the Curator
NASA/Johnson Space Center
Houston, TX 77058 USA.

Requests that are received by the MWG Secretary before Sept. 16, 1994, will be reviewed at the MWG meeting on Oct. 7-8, 1994, to be held in Washington, D.C. Requests that are received after the Sept.16 deadline may possibly be delayed for review until the MWG meets again in the Spring of 1995. **PLEASE SUBMIT YOUR REQUESTS ON TIME.** Questions pertaining to sample requests can be directed in writing to the above address or can be directed to the curator by phone, FAX, or e-mail.

Requests for samples are welcomed from research scientists of all countries, regardless of their current state of funding for meteorite studies. Graduate student requests should be initialed or countersigned by a supervising scientist to confirm access to facilities for analysis. All sample requests will be reviewed in a timely manner. Those requests that do not meet the JSC Curatorial Guidelines (published in this issue), will be reviewed by the Meteoritie Working Group (MWG), a peer-review committee which meets twice a year to guide the collection, curation, allocation, and distribution of the U.S. collection of Antarctic meteorites. Issuance of samples does not imply a commitment by any agency to fund the proposed research. Requests for financial support must be submitted separately to the appropriate funding agencies. As a matter of policy, U.S. Antarctic meteorites are the property of the National Science Foundation and all allocations are subject to recall.

Each request should accurately refer to meteorite samples by their respective identification numbers and should provide detailed scientific justification for proposed research. Specific requirements for samples, such as sizes or weights, particular locations (if applicable) within individual specimens, or special handling or shipping procedures should be explained in each request. Requests for thin sections which will be used in destructive procedures such as ion probe, etch or even repolishing, must be stated explicitly. Consortium requests should be initialed or countersigned by a member of each group in the consortium. All necessary information should probably be condensable into a one- or two-page letter, although informative attachments (reprints of publication that explain rationale, flow diagrams for analyses, etc.) are welcome.

Samples can be requested from any meteorite that has been made available through announcement in any issue of the Antarctic Meteorite Newsletter (beginning with 1 (1) in June, 1978). Many of the meteorites have also been described in five Smithsonian Contr. Earth Sci.: Nos. 23, 24, 26, 28, and 30. A table containing all classification as of December 1993 is published in Meteoritics 29(1) p. 100-142.

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New Meteorites
This newsletter presents classifications of 337 meteorites from the 1988-1993 ANSMET collections. The new meteorites include 2 achondrites (diogenite and howardite), 43 carbonaceous chondrites (1 ALH85085-like, 5 C2, 2 CK5, 1 CO3, 1 CV3, 33 paired CR2), 1 enstatite chondrite, 5 unequilibrated ordinary chondrites, and 1 mesosiderite.

Update on Problems with Overseas Mail
Soon after NASA switched to an independent mail contractor we experienced delays in delivery of correspondence and newsletters to some overseas investigators. We conducted a scientific test of the mail problem using 20 overseas investigators and sent the documentation to the Chief of the JSC mail distribution.

1. Although the problem has improved somewhat, some delays in overseas delivery may still occur.

2. Thanks to all investigators for your help in resolving this problem.

If you receive any delayed makil from us please inform us by e-mail or FAX and save the envelope as evidence.

Information on the U.S. Collection of Antarctic Meteorites

Number of meteorites:	7037
Number of meteorites classified:	6053

From 1988-1993 Collections

Pages 5-19 contain preliminary descriptions and classifications of meteorites that were completed since publication of issue 17(1) (March 1994). All specimens of special petrologic type (carbonaceous chondrite, unequilibrated ordinary chondrite, achondrite, etc.) are represented by separate descriptions. However, some specimens of non-special petrologic type are listed only as single line entries in Table 1. For convenience, new specimens of special petrologic type are also recast in Table 2.

Macroscopic descriptions of stony meteorites were performed at NASA/JSC. These descriptions summarize hand-specimen features observed during initial examination. Classification is based on microscopic petrography and reconnaissance-level electron microprobe analyses using polished sections prepared from a small chip of each meteorite. For each stony meteorite the sample number assigned to the preliminary examination section is included. In some cases, however, a single microscopic description was based on thin sections of several specimens believed to be members of a single fall.

Meteorite descriptions contained in this issue were contributed by the following individuals:

Robbie Marlow, Cecilia Satterwhite,
Antarctic Meteorite Laboratory
NASA/Johnson Space Center
Houston, Texas

Brian H. Mason
Department of Mineral Sciences
U.S. National Museum of
Natural History
Smithsonian Institution
Washington, D.C.

Antarctic Meteorite Locations

ALH — Allan Hills
BEC — Beckett Nunatak
BOW — Bowden Neve
BTN — Bates Nunataks
DAV — David Glacier
DOM — Dominion Range
DRP — Derrick Peak
EET — Elephant Moraine
GEO — Geologists Range
GRO — Grosvenor Mountains
HOW — Mt. Howe
ILD — Inland Forts
LAP — LaPaz Ice Field
LEW — Lewis Cliff
MAC — MacAlpine Hills
MBR — Mount Baldr
MCY — MacKay Glacier
MET — Meteorite Hills
MIL — Miller Range
OTT — Outpost Nunatak
PAT — Patuxent Range
PCA — Pecora Escarpment
PGP — Purgatory Peak
QUE — Queen Alexandra Range
RKP — Reckling Peak
STE — Stewart Hills
TIL — Thiel Mountains
TYR — Taylor Glacier
WIS — Wisconsin Range

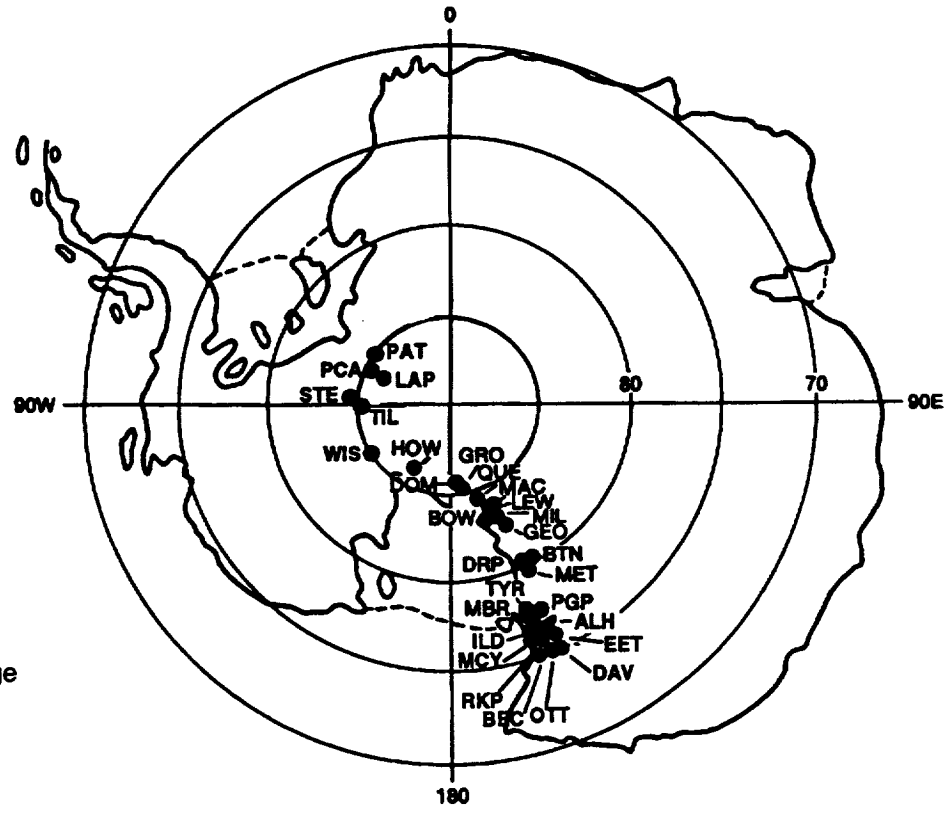

TABLE 1

List of Newly Classified Antarctic Meteorites **

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 90745	5.0	L4 CHONDRITE	B	A	25	21
MAC 88203	36.9	H5 CHONDRITE	B/C	A	19	16
MAC 88204	34.4	H5 CHONDRITE	B/C	A	19	16
ALH 90400 ~	36.3	L6 CHONDRITE	A/B	A/B		
ALH 90401 ~	274.1	LL6 CHONDRITE	A/B	B/C		
ALH 90402	1.7	H5 CHONDRITE	B	A	18	16
ALH 90403	38.6	H5 CHONDRITE	A/B	A	19	16
ALH 90404 ~	36.6	L6 CHONDRITE	A/B	A		
ALH 90405	210.4	L4 CHONDRITE	B/C	A	24	21-25
ALH 90406	6.8	H5 CHONDRITE	B/C	A	18	16
ALH 90408	9.0	H5 CHONDRITE	B/C	A	18	16
ALH 90409 ~	0.8	L6 CHONDRITE	B	A		
ALH 90410	20.1	H5 CHONDRITE	B/C	A	18	16
ALH 90412	6.3	H5 CHONDRITE	B/C	A	18	16
ALH 90413	54.8	H5 CHONDRITE	A/B	A	18	16
ALH 90414	15.6	H5 CHONDRITE	B/C	A	19	16
EET 90567 ~	17.3	L6 CHONDRITE	B/C	A		
EET 90568 ~	22.8	L6 CHONDRITE	B/C	A		
EET 90569 ~	41.6	L6 CHONDRITE	A/B	A		
EET 90570 ~	22.8	L6 CHONDRITE	A/B	A		
EET 90571 ~	22.9	L6 CHONDRITE	A/B	A		
EET 90572 ~	28.9	L6 CHONDRITE	A/B	A		
EET 90573 ~	19.1	L6 CHONDRITE	A/B	A		
EET 90574 ~	20.6	L6 CHONDRITE	A/B	A		
EET 90575 ~	33.7	L6 CHONDRITE	A/B	A		
EET 90576 ~	18.4	L6 CHONDRITE	A/B	A		
EET 90577 ~	33.6	L6 CHONDRITE	A/B	A		
EET 90578 ~	10.1	L6 CHONDRITE	A/B	A		
EET 90579 ~	15.6	L6 CHONDRITE	A/B	A		
EET 90610 ~	1450.8	L6 CHONDRITE	A/B	A/B		
EET 90830 ~	7.4	L6 CHONDRITE	B	A		
EET 90831 ~	3.0	L6 CHONDRITE	B	A		
EET 90832 ~	59.9	L6 CHONDRITE	Be	A		
EET 90833 ~	26.1	L6 CHONDRITE	B	A		
EET 90834 ~	40.0	L6 CHONDRITE	B	A		
EET 90835 ~	29.1	L6 CHONDRITE	Be	A		
EET 90836	6.9	L5 CHONDRITE	A/B	A	24	20
EET 90837 ~	40.6	L6 CHONDRITE	B	A		
EET 90838 ~	68.4	L6 CHONDRITE	B	A		
EET 90839 ~	52.5	L6 CHONDRITE	B	A		
EET 90840 ~	19.0	L6 CHONDRITE	A/B	A		
EET 90841 ~	19.5	L6 CHONDRITE	A/B	A		
EET 90842 ~	18.6	L6 CHONDRITE	A/B	A		
EET 90843 ~	20.0	L6 CHONDRITE	B/C	A		
EET 90844 ~	26.1	L6 CHONDRITE	A/B	A		
EET 90845 ~	21.3	L6 CHONDRITE	A/B	A		
EET 90846 ~	29.9	L6 CHONDRITE	A/B	A		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 90847 ~	42.3	L6 CHONDRITE	A/B	A		
EET 90848 ~	68.2	L6 CHONDRITE	A/B	A/B		
EET 90849 ~	40.3	L6 CHONDRITE	B/C	A/B		
EET 90850 ~	19.7	L6 CHONDRITE	A/B	A		
EET 90851 ~	29.1	L6 CHONDRITE	A/B	A		
EET 90852 ~	37.9	L6 CHONDRITE	A/B	A		
EET 90853 ~	32.7	L6 CHONDRITE	A/B	A		
EET 90854 ~	49.8	L6 CHONDRITE	A/B	A		
EET 90855 ~	13.8	L6 CHONDRITE	A/B	A		
EET 90856 ~	29.9	L6 CHONDRITE	A/B	A		
EET 90857 ~	10.3	L6 CHONDRITE	A	A		
EET 90858 ~	21.9	L6 CHONDRITE	A/B	A		
EET 90859 ~	26.2	L6 CHONDRITE	A/B	A		
EET 90860 ~	26.2	L6 CHONDRITE	A/B	A		
EET 90861 ~	38.9	L6 CHONDRITE	A/B	A		
EET 90862 ~	9.6	L6 CHONDRITE	A/B	A		
EET 90863 ~	10.7	L6 CHONDRITE	A/B	A		
EET 90864 ~	3.7	L6 CHONDRITE	B	A		
EET 90865 ~	9.6	L6 CHONDRITE	A/B	A		
EET 90866 ~	13.3	L6 CHONDRITE	B/C	A/B		
EET 90867 ~	7.9	L6 CHONDRITE	A/B	A		
EET 90868 ~	32.0	L6 CHONDRITE	A/B	A		
EET 90869 ~	23.8	L6 CHONDRITE	A/B	A		
EET 90870 ~	72.4	L6 CHONDRITE	A/B	A		
EET 90871 ~	38.4	L6 CHONDRITE	A/B	A		
EET 90872 ~	46.1	L6 CHONDRITE	A/B	A		
EET 90873 ~	39.2	L6 CHONDRITE	A/B	A		
EET 90874 ~	30.9	L6 CHONDRITE	A/B	A		
EET 90875 ~	16.1	L6 CHONDRITE	A/B	A		
EET 90876 ~	19.0	L6 CHONDRITE	A/B	A		
EET 90877 ~	15.8	L6 CHONDRITE	A/B	A		
EET 90878 ~	10.8	L6 CHONDRITE	A/B	A		
EET 90879 ~	32.5	L6 CHONDRITE	A/B	A		
EET 90880 ~	41.4	L6 CHONDRITE	A/B	A		
EET 90881 ~	19.8	L6 CHONDRITE	A/B	A		
EET 90882 ~	24.3	L6 CHONDRITE	A/B	A		
EET 90883 ~	71.0	L6 CHONDRITE	A/B	A		
EET 90884 ~	19.6	L6 CHONDRITE	A/B	A/B		
EET 90885 ~	66.6	L6 CHONDRITE	A/B	A/B		
EET 90886 ~	14.8	L6 CHONDRITE	A/B	A/B		
EET 90887 ~	7.5	L6 CHONDRITE	A/B	A		
EET 90888 ~	25.0	L6 CHONDRITE	A/B	A		
EET 90889 ~	48.3	L6 CHONDRITE	A/B	A		
EET 90890 ~	25.7	L6 CHONDRITE	A/B	A		
EET 90891 ~	13.1	L6 CHONDRITE	A/B	A		
EET 90892 ~	36.9	L6 CHONDRITE	A/B	A/B		
EET 90893 ~	61.7	L6 CHONDRITE	A/B	A		
EET 90894 ~	15.0	L6 CHONDRITE	A/B	A		
EET 90895 ~	36.0	L6 CHONDRITE	A/B	A		
EET 90896	13.9	H5 CHONDRITE	B/C	A	18	16
EET 90897 ~	14.8	L6 CHONDRITE	A/B	A		
EET 90898 ~	36.7	L6 CHONDRITE	A/B	A		
EET 90899 ~	14.1	L6 CHONDRITE	A/B	A/B		
EET 90900 ~	23.4	L6 CHONDRITE	A/B	A		
EET 90901 ~	70.5	L6 CHONDRITE	A/B	A		
EET 90902 ~	13.2	L6 CHONDRITE	A/B	A		
EET 90903 ~	17.8	L6 CHONDRITE	A/B	A		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 90904 ~	10.1	L6 CHONDRITE	A/B	A		
EET 90905 ~	8.4	L6 CHONDRITE	A/B	A		
EET 90906 ~	9.8	L6 CHONDRITE	A/B	A		
EET 90907 ~	30.1	L6 CHONDRITE	A/B	A		
EET 90908 ~	9.4	L6 CHONDRITE	A/B	A		
EET 90909	6.4	L3.6 CHONDRITE	B	A	1-22	6-21
EET 90910 ~	4.0	L6 CHONDRITE	A/B	A		
EET 90911 ~	3.0	L6 CHONDRITE	A/B	A		
EET 90912 ~	0.2	L6 CHONDRITE	B/C	A		
EET 90913 ~	23.8	L6 CHONDRITE	B	A		
EET 90914 ~	2.9	L6 CHONDRITE	B	A		
EET 90915 ~	6.1	L6 CHONDRITE	A/B	A		
EET 90916	4.6	L3.6 CHONDRITE	B/C	A	2-19	2-23
EET 90917 ~	47.9	L6 CHONDRITE	A/B	A		
EET 90918 ~	0.6	L6 CHONDRITE	B/C	A		
EET 90919 ~	0.2	L6 CHONDRITE	B/C	A		
EET 90920 ~	36.6	L6 CHONDRITE	A/B	A		
EET 90921 ~	32.2	L6 CHONDRITE	A/B	A		
EET 90922 ~	55.7	L6 CHONDRITE	A/B	A		
EET 90923 ~	54.6	L6 CHONDRITE	A/B	A		
EET 90924 ~	4.5	L6 CHONDRITE	A/B	A		
EET 90925 ~	45.1	L6 CHONDRITE	B	A		
EET 90926 ~	37.2	L6 CHONDRITE	A/B	A		
EET 90927 ~	22.9	L6 CHONDRITE	A/B	A		
EET 90928 ~	28.5	L6 CHONDRITE	A/B	A		
EET 90929 ~	43.4	L6 CHONDRITE	A/B	A/B		
EET 90930 ~	19.7	L6 CHONDRITE	A/B	A/B		
EET 90931 ~	17.4	L6 CHONDRITE	B	A		
EET 90932 ~	23.4	L6 CHONDRITE	A/B	A		
EET 90933 ~	53.2	L6 CHONDRITE	A/B	A		
EET 90934 ~	13.7	L6 CHONDRITE	B	A		
EET 90935 ~	17.2	L6 CHONDRITE	A/B	A		
EET 90936 ~	25.5	L6 CHONDRITE	Be	A		
EET 90937 ~	11.0	L6 CHONDRITE	A/B	A		
EET 90938 ~	23.0	L6 CHONDRITE	A/B	A		
EET 90939 ~	10.5	L6 CHONDRITE	B/C	A		
EET 90940 ~	18.0	L6 CHONDRITE	A/B	A		
EET 90941 ~	15.6	L6 CHONDRITE	B	A		
EET 90942	3.1	H5 CHONDRITE	B	A	18	16
EET 90943 ~	9.7	L6 CHONDRITE	A/B	A		
EET 90944 ~	21.7	L6 CHONDRITE	A/B	A		
EET 90945 ~	41.2	L6 CHONDRITE	B	A		
EET 90946 ~	6.7	L6 CHONDRITE	B	A		
EET 90947 ~	5.6	L6 CHONDRITE	A/B	A		
EET 90948 ~	23.9	L6 CHONDRITE	B	A		
EET 90949 ~	19.8	L6 CHONDRITE	A/B	A		
EET 90950 ~	45.6	L6 CHONDRITE	A/B	A		
EET 90951 ~	52.7	L6 CHONDRITE	A/B	A		
EET 90952 ~	21.5	L6 CHONDRITE	A/B	A		
EET 90953 ~	18.7	L6 CHONDRITE	A/B	A		
EET 90954 ~	14.9	L6 CHONDRITE	B	A		
EET 90955 ~	28.3	L6 CHONDRITE	A/B	A		
EET 90956 ~	60.0	L6 CHONDRITE	A/B	A		
EET 90957 ~	15.1	L6 CHONDRITE	A/B	A		
EET 90958 ~	27.4	L6 CHONDRITE	A/B	A		
EET 90959	20.6	H5 CHONDRITE	B/C	A	19	17
EET 90960 ~	54.8	L6 CHONDRITE	A/B	A		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 90961 ~	13.1	L6 CHONDRITE	A/B	A		
EET 90962 ~	12.9	L6 CHONDRITE	A/B	A		
EET 90963 ~	11.6	L6 CHONDRITE	A/B	A		
EET 90964 ~	26.6	L6 CHONDRITE	A/B	A		
EET 90965 ~	45.1	L6 CHONDRITE	A/B	A		
EET 90966 ~	68.8	L6 CHONDRITE	A/B	A		
EET 90967 ~	47.0	L6 CHONDRITE	A/B	A		
EET 90968	4.8	H5 CHONDRITE	B/C	A	19	17
EET 90969 ~	2.9	L6 CHONDRITE	A/B	A		
EET 90970 ~	1.5	L6 CHONDRITE	A/B	A		
EET 90971 ~	16.3	L6 CHONDRITE	A/B	A		
EET 90972 ~	2.1	L6 CHONDRITE	B	A		
EET 90973 ~	18.0	L6 CHONDRITE	A/B	A		
EET 90974 ~	15.5	L6 CHONDRITE	A/B	A		
EET 90975 ~	11.3	L6 CHONDRITE	A/B	A		
EET 90976 ~	2.9	L6 CHONDRITE	A/B	A		
EET 90977 ~	4.0	L6 CHONDRITE	A/B	A		
EET 90978 ~	4.8	L6 CHONDRITE	A/B	A		
EET 90979 ~	0.8	L6 CHONDRITE	B/C	A		
EET 90980 ~	13.8	L6 CHONDRITE	B	A		
EET 90981 ~	3.8	L6 CHONDRITE	B	A		
EET 90982 ~	8.5	L6 CHONDRITE	A/B	A		
EET 90983 ~	1.2	L6 CHONDRITE	B/C	A		
EET 90984 ~	1.9	L6 CHONDRITE	B	A		
EET 90985 ~	1.2	L6 CHONDRITE	B/C	A		
EET 90986	1.2	C2 CHONDRITE	B	A		
EET 90987 ~	15.8	L6 CHONDRITE	A/B	A		
EET 90988 ~	2.8	L6 CHONDRITE	A/B	A		
EET 90989 ~	3.9	L6 CHONDRITE	A/B	A		
EET 90990	16.1	H5 CHONDRITE	B/C	A	18	16
EET 90991	6.6	CK5 CHONDRITE	A/B	A	30	24
EET 90992	5.7	EL3 CHONDRITE	C	A/B		0.2-3
EET 90993 ~	49.7	L6 CHONDRITE	A/B	B		
EET 92084	5.8	H5 CHONDRITE	A/B	A	18	16
EET 92100	3.4	L3.4 CHONDRITE	A/Be	A/B	3-39	5-21
EET 92101 ~	3.3	L6 CHONDRITE	A/B	A/B		
EET 92102 ~	9.6	L6 CHONDRITE	C	A		
EET 92103	1.5	C2 CHONDRITE	A/Be	A/B	1-20	3
EET 92104 ~	14.3	L6 CHONDRITE	B/C	A/B		
EET 92105	18.2	CR2 CHONDRITE	B	A/B	1-3	1-3
EET 92106 ~	3.0	L6 CHONDRITE	B/C	A		
EET 92107 ~	10.9	CR2 CHONDRITE	C	A/B		
EET 92108 ~	6.6	L6 CHONDRITE	B	A		
EET 92109 ~	0.2	L6 CHONDRITE	C	A		
EET 92110 ~	56.3	L6 CHONDRITE	B	A		
EET 92111	16.5	H6 CHONDRITE	B/C	A	19	17
EET 92112 ~	0.4	H6 CHONDRITE	C	A		
EET 92113	2.9	H6 CHONDRITE	B/C	A/B	19	17
EET 92114 ~	2.0	H6 CHONDRITE	B	A		
EET 92115	22.1	H5 CHONDRITE	B	A	19	17
EET 92116 ~	37.7	L6 CHONDRITE	A/B	A		
EET 92117 ~	12.9	L6 CHONDRITE	B/C	A		
EET 92118 ~	1.3	L6 CHONDRITE	C	A		
EET 92119	32.1	H5 CHONDRITE	B	A/B	19	17
EET 92120 ~	40.5	L6 CHONDRITE	A/B	A		
EET 92121	21.0	L6 CHONDRITE	B	A	24	20

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 92122	14.5	H5 CHONDRITE	B/C	A	19	16
EET 92123	7.7	H5 CHONDRITE	B/C	A	18	16
EET 92124	1.9	H5 CHONDRITE	B/C	A	19	17
EET 92125 ~	0.8	L6 CHONDRITE	A/B	A		
EET 92126	4.8	CO3 CHONDRITE	B/C	A	1-51	1-2
EET 92127	1.2	H5 CHONDRITE	B/C	A	17	15
EET 92128	1.2	CV3 CHONDRITE	C	A	7-15	3-21
EET 92129	3.8	H5 CHONDRITE	B/C	A	19	17
EET 92130 ~	43.9	L6 CHONDRITE	B/C	A		
EET 92131 ~	15.2	CR2 CHONDRITE	B/C	B/C		
EET 92132 ~	11.2	H6 CHONDRITE	B	A		
EET 92133	11.4	L4 CHONDRITE	B	A	25	19-21
EET 92134	7.3	LL6 CHONDRITE	A/B	A	31	26
EET 92135 ~	17.6	H6 CHONDRITE	B	A		
EET 92136 ~	8.2	CR2 CHONDRITE	B/C	B		
EET 92137 ~	1.7	L6 CHONDRITE	A/B	A		
EET 92138 ~	1.2	CR2 CHONDRITE	B/C	A		
EET 92139 ~	1.1	L6 CHONDRITE	B/C	A		
EET 92140 ~	3.6	L6 CHONDRITE	B/C	A		
EET 92141 ~	0.9	L6 CHONDRITE	B	A		
EET 92142 ~	0.9	L6 CHONDRITE	B	A		
EET 92143 ~	9.8	CR2 CHONDRITE	B/C	A		
EET 92144 ~	12.6	CR2 CHONDRITE	B/C	A		
EET 92145 ~	0.6	L6 CHONDRITE	A/B	A		
EET 92146 ~	1.4	L6 CHONDRITE	B/C	A		
EET 92147 ~	1.5	CR2 CHONDRITE	B/C	A		
EET 92149 ~	25.0	CR2 CHONDRITE	B/C	A/B		
EET 92150 ~	18.8	CR2 CHONDRITE	B/C	A/B		
EET 92151 ~	0.8	L6 CHONDRITE	B	A		
EET 92152 ~	38.8	CR2 CHONDRITE	B/C	A/B		
EET 92153 ~	29.3	L6 CHONDRITE	A/B	A		
EET 92154 ~	20.2	LL6 CHONDRITE	A/B	A		
EET 92155 ~	3.0	L6 CHONDRITE	B/C	A		
EET 92156 ~	0.4	CR2 CHONDRITE	Ce	A		
EET 92157	6.4	H5 CHONDRITE	B/C	A	19	17
EET 92158 ~	5.4	L6 CHONDRITE	B/C	A		
EET 92159 ~	67.6	CR2 CHONDRITE	B/C	A/B		
EET 92160 ~	30.9	L6 CHONDRITE	A/B	A		
EET 92161 ~	51.2	CR2 CHONDRITE	B/C	A/B		
EET 92162 ~	31.6	CR2 CHONDRITE	B/C	A/B		
EET 92163 ~	33.4	CR2 CHONDRITE	B/C	A/B		
EET 92164 ~	36.5	CR2 CHONDRITE	B/C	A/B		
EET 92165 ~	34.7	CR2 CHONDRITE	B/C	A/B		
EET 92166 ~	44.7	CR2 CHONDRITE	B/C	A/B		
EET 92167 ~	26.4	L6 CHONDRITE	A/B	A		
EET 92168 ~	17.7	CR2 CHONDRITE	B/C	A/B		
EET 92169 ~	21.5	CR2 CHONDRITE	B/C	A/B		
EET 92170 ~	17.1	L6 CHONDRITE	B	A		
EET 92171 ~	24.0	CR2 CHONDRITE	B/C	B/C		
EET 92172	19.8	LL6 CHONDRITE	A	A	30	25
EET 92173 ~	45.5	L6 CHONDRITE	B/C	A		
EET 92174 ~	63.9	CR2 CHONDRITE	B/C	B/C		
EET 92175 ~	41.0	CR2 CHONDRITE	B/C	B/C		
EET 92176 ~	25.6	CR2 CHONDRITE	B/C	B/C		
EET 92177 ~	11.4	CR2 CHONDRITE	B/C	B		
EET 92178 ~	19.5	CR2 CHONDRITE	B/C	A/B		
EET 92179 ~	21.5	CR2 CHONDRITE	B	A/B		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 92180 ~	14.7	CR2 CHONDRITE	B/C	B/C		
EET 92181 ~	11.7	L6 CHONDRITE	B/C	A		
EET 92182 ~	38.5	L6 CHONDRITE	B/C	A		
EET 92183 ~	7.7	CR2 CHONDRITE	B/C	B		
EET 92184	12.0	L4 CHONDRITE	A/B	A	25	14-21
EET 92185 ~	10.0	CR2 CHONDRITE	B/C	A/B		
EET 92186 ~	11.3	LL6 CHONDRITE	A/B	A/B		
EET 92187 ~	14.7	L6 CHONDRITE	B	A		
EET 92189 ~	11.1	CR2 CHONDRITE	B/C	A/B		
EET 92190 ~	13.4	CR2 CHONDRITE	B/C	A		
EET 92191 ~	17.8	H6 CHONDRITE	B/C	A		
EET 92192 ~	6.2	L6 CHONDRITE	A/B	A		
EET 92193	22000.0	H6 CHONDRITE	A/Be	A	19	17
RKP 92407 ~	127.9	L6 CHONDRITE	B/C	A/B		
RKP 92408 ~	72.2	L6 CHONDRITE	B/C	A		
RKP 92409 ~	0.8	L6 CHONDRITE	B/C	A		
RKP 92410	53.8	L4 CHONDRITE	B/C	A	24	18-24
RKP 92411	21.3	H5 CHONDRITE	B/C	A	18	16
RKP 92412 ~	18.6	L6 CHONDRITE	A/B	A		
RKP 92413	1.7	LL3.7 CHONDRITE	B/C	A	21-37	17-21
RKP 92414 ~	4.1	L6 CHONDRITE	B/C	A		
RKP 92415	18.6	H6 CHONDRITE	B/C	A	19	16
RKP 92416	39.9	LL3.7 CHONDRITE	B/Ce	A	24-31	10-23
RKP 92417	2.9	LL4 CHONDRITE	A/B	A	28	22-24
RKP 92418	9.0	H5 CHONDRITE	A/B	A	19	17
RKP 92419	10.2	L6 CHONDRITE	B/Ce	A/B	25	21
RKP 92420	6.6	H5 CHONDRITE	A/B	A/B	18	16
RKP 92421 ~	3.1	L6 CHONDRITE	A/B	A		
RKP 92422	12.9	H5 CHONDRITE	B/C	A	18	16
RKP 92423 ~	3.8	L6 CHONDRITE	B/C	A		
RKP 92424	6.5	H5 CHONDRITE	B/C	A	19	16
RKP 92425 ~	0.9	L6 CHONDRITE	B/C	A		
RKP 92426	65.8	LL6 CHONDRITE	B	A	30	24
RKP 92427 ~	3.9	L6 CHONDRITE	B/C	A		
RKP 92428 ~	6.4	L6 CHONDRITE	B	A		
RKP 92429 ~	1.9	L6 CHONDRITE	C	A		
RKP 92430	12.7	H5 CHONDRITE	B/C	A	19	17
RKP 92431 ~	1.2	L6 CHONDRITE	C	A		
RKP 92432 ~	1.2	L6 CHONDRITE	B/C	A		
RKP 92433 ~	1.5	L6 CHONDRITE	C	A		
RKP 92434	37.5	H4 CHONDRITE	B	A	18	10-15
RKP 92435	4.6	C CHON (ALH85085-LIKE)	C	A	-	1-19
RKP 92436 ~	2.0	L6 CHONDRITE	B/C	A		
RKP 92437 ~	2.9	H6 CHONDRITE	B/C	A		
RKP 92438 ~	0.5	L6 CHONDRITE	B/C	A		
RKP 92439 ~	0.5	L6 CHONDRITE	B/C	A		
RKP 92440 ~	2.2	H6 CHONDRITE	B/C	A		
RKP 92441 ~	1.0	L6 CHONDRITE	A/B	A		
RKP 92442 ~	4.8	L6 CHONDRITE	B/C	A		
RKP 92443 ~	1.4	L6 CHONDRITE	B/C	A		
RKP 92444 ~	1.6	L6 CHONDRITE	B/C	A		
RKP 92445 ~	0.8	L6 CHONDRITE	B/C	A		
RKP 92446 ~	0.4	L6 CHONDRITE	A/B	A		
QUE 93001	1050.8	MESOSIDERITE	B/C	A/B		23-56
QUE 93002	2.6	MESOSIDERITE	B	A/B		23-54

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
QUE 93004	3.5	C2 CHONDRITE	A/B	A/B	1-30	1-2
QUE 93005	13.4	C2 CHONDRITE	A/Be	A/B	1-20	
QUE 93006	2.7	C2 CHONDRITE	A/Be	A/B	1-29	1-3
QUE 93007	3.1	CK5 CHONDRITE	A/Be	A/B	31	
QUE 93008	2.9	HOWARDITE	A/B	A		23-50
QUE 93009	12.5	DIOGENITE	A/B	A		28
QUE 93010	6214.9	H5 CHONDRITE	B/Ce	C	19	17
QUE 93011	7459.8	H4 CHONDRITE	B	A/B	16	12-15
QUE 93012	8000.0	H6 CHONDRITE	B/Ce	B/C	18	16

~Classified by using refractive indices.

TABLE 2

Newly Classified Specimens Listed By Type **

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
		Achondrites				
QUE 93009	12.5	DIOGENITE	A/B	A		28
QUE 93008	2.9	HOWARDITE	A/B	A		23-50
		Carbonaceous Chondrites				
RKP 92435	4.6	C CHON (ALH85085-LIKE)	C	A	-	1-19
EET 90986	1.2	C2 CHONDRITE	B	A		
EET 92103	1.5	C2 CHONDRITE	A/Be	A/B	1-20	3
QUE 93004	3.5	C2 CHONDRITE	A/B	A/B	1-30	1-2
QUE 93005	13.4	C2 CHONDRITE	A/Be	A/B	1-20	
QUE 93006	2.7	C2 CHONDRITE	A/Be	A/B	1-29	1-3
EET 90991	6.6	CK5 CHONDRITE	A/B	A	30	24
QUE 93007	3.1	CK5 CHONDRITE	A/Be	A/B	31	
EET 92126	4.8	CO3 CHONDRITE	B/C	A	1-51	1-2
EET 92105	18.2	CR2 CHONDRITE	B	A/B	1-3	1-3
EET 92107 ~	10.9	CR2 CHONDRITE	C	A/B		
EET 92131 ~	15.2	CR2 CHONDRITE	B/C	B/C		
EET 92136 ~	8.2	CR2 CHONDRITE	B/C	B		
EET 92138 ~	1.2	CR2 CHONDRITE	B/C	A		
EET 92143 ~	9.8	CR2 CHONDRITE	B/C	A		
EET 92144 ~	12.6	CR2 CHONDRITE	B/C	A		
EET 92147 ~	1.5	CR2 CHONDRITE	B/C	A		
EET 92149 ~	25.0	CR2 CHONDRITE	B/C	A/B		
EET 92150 ~	18.8	CR2 CHONDRITE	B/C	A/B		
EET 92152 ~	38.8	CR2 CHONDRITE	B/C	A/B		
EET 92156 ~	0.4	CR2 CHONDRITE	Ce	A		
EET 92159 ~	67.6	CR2 CHONDRITE	B/C	A/B		
EET 92161 ~	51.2	CR2 CHONDRITE	B/C	A/B		
EET 92162 ~	31.6	CR2 CHONDRITE	B/C	A/B		
EET 92163 ~	33.4	CR2 CHONDRITE	B/C	A/B		
EET 92164 ~	36.5	CR2 CHONDRITE	B/C	A/B		
EET 92165 ~	34.7	CR2 CHONDRITE	B/C	A/B		
EET 92166 ~	44.7	CR2 CHONDRITE	B/C	A/B		
EET 92168 ~	17.7	CR2 CHONDRITE	B/C	A/B		
EET 92169 ~	21.5	CR2 CHONDRITE	B/C	A/B		
EET 92171 ~	24.0	CR2 CHONDRITE	B/C	B/C		
EET 92174 ~	63.9	CR2 CHONDRITE	B/C	B/C		
EET 92175 ~	41.0	CR2 CHONDRITE	B/C	B/C		
EET 92176 ~	25.6	CR2 CHONDRITE	B/C	B/C		
EET 92177 ~	11.4	CR2 CHONDRITE	B/C	B		
EET 92178 ~	19.5	CR2 CHONDRITE	B/C	A/B		
EET 92179 ~	21.5	CR2 CHONDRITE	B	A/B		
EET 92180 ~	14.7	CR2 CHONDRITE	B/C	B/C		
EET 92183 ~	7.7	CR2 CHONDRITE	B/C	B		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
EET 92185 ~	10.0	CR2 CHONDRITE	B/C	A/B		
EET 92189 ~	11.1	CR2 CHONDRITE	B/C	A/B		
EET 92190 ~	13.4	CR2 CHONDRITE	B/C	A		
EET 92128	1.2	CV3 CHONDRITE	C	A	7-15	3-21
		Chondrites - Type 3				
EET 92100	3.4	L3.4 CHONDRITE	A/Be	A/B	3-39	5-21
EET 90909	6.4	L3.6 CHONDRITE	B	A	1-22	6-21
EET 90916	4.6	L3.6 CHONDRITE	B/C	A	2-19	2-23
RKP 92413	1.7	LL3.7 CHONDRITE	B/C	A	21-37	17-21
RKP 92416	39.9	LL3.7 CHONDRITE	B/Ce	A	24-31	10-23
		E Chondrites				
EET 90992	5.7	EL3 CHONDRITE	C	A/B		0.2-3
		Stony-Irons				
QUE 93001	1050.8	MESOSIDERITE	B/C	A/B		23-56
QUE 93002	2.6	MESOSIDERITE	B	A/B		23-54

***NOTES TO TABLES 1 AND 2:*

"Weathering" categories:

A: Minor rustiness; rust haloes on metal particles and rust stains along fractures are minor.
B: Moderate rustiness; large rust haloes occur on metal particles and rust stains on internal fractures are extensive.
C: Severe rustiness; metal particles have been mostly stained by rust throughout.
e: Evaporite minerals visible to the naked eye.

"Fracturing" categories:

A: Minor cracks; few or no cracks are conspicuous to the naked eye and no cracks penetrate the entire specimen.
B: Moderate cracks; several cracks extend across exterior surfaces and the specimen can be readily broken along the cracks.
C: Severe cracks; specimen readily crumbles along cracks that are both extensive and abundant.

~Classified by using refractive indices.
**Reclassified

TABLE 3

Tentative Pairings for New Specimens

Table 3 summarizes possible pairings of the new specimens with each other and with previously classified specimens, based on descriptive data in this newsletter issue. Readers who desire a more comprehensive review of the meteorite pairings in the U.S. Antarctic collection should refer to the compilation provided by Dr. E.R.D. Scott, as published in issue 9(2) (June 1986).

MESOSIDERITE:
QUE 93001, 93002 with QUE 86900.

C2 CHONDRITE:
EET 92105 with EET 87711.

EET 90986 with EET 90047.

QUE 93004 and 93006.

CR2 CHONDRITE:
EET 92164, 92143, 92159, 92174, 92107, 92166, 92165, 92150, 92162, 92179, 92169, 92176, 92180, 92149, 92136, 92147, 92171, 92177, 92131, 92163, 92156, 92144, 92175, 92185, 92189, 92161, 92190, 92183, 92168, 92138, 92152, 92178, with EET87711.

CK5 CHONDRITE:
EET 90991 with EET 87507.

EL3 CHONDRITE:
EET 90992 with EET 90299.

L3.6 CHONDRITE
EET 90909 and 90916.

LL3.7 CHONDRITE:
RKP 92413 and 92416.

H5 CHONDRITE:
MAC 88203 and 88204.

Sample No.: EET90909; 90916
Location: Elephant Moraine
Dimensions (cm): 1.7 x 1.4 x 1.2; 2.2 x 1.3 x 1.2
Weight (g): 6.4; 4.6
Meteorite Type: L3 chondrite (estimated L3.6)

Macroscopic Description: Cecilia Satterwhite
Black fusion crust covers ninety percent of each of these specimens. Oxidation haloes are present in the fusion crust of 90909. The interior of both specimens is dark brown to black with areas of extensive oxidation. Light and dark inclusions are abundant and range in size from 1 mm to 3 mm.

Thin Section (EET90909,2; 90916,2)
Description: Brian Mason
The sections are so similar that a single description suffices; the meteorites are probably paired. Chondrules and chondrule fragments, up to 2.9 mm across, are abundant, and are set in a black matrix which contains a little nickel-iron and troilite. Considerable weathering is indicated by brown limonitic staining throughout the sections. Microprobe analyses show olivine and pyroxene of variable composition: olivine, Fa_{1-22}, mean Fa_{12}: pyroxene, Fs_{2-23}. The meteorites are classified as L3 chondrites (estimated L3.6).

Sample No.: EET90986
Location: Elephant Moraine
Dimensions (cm): 1.6 x 0.9 x 0.5
Weight (g): 1.2
Meteorite Type: C2 chondrite

Macroscopic Description: Cecilia Satterwhite
Black, frothy, pitted, and fractured fusion crust covers most of EET90986. The interior is made up of fine-grained, black matrix with a few shiny inclusions. This sample is extremely friable.

Thin Section (,2) Description: Brian Mason
The section shows chondrules and chondrule fragments, up to 0.9 mm across, and small scattered mineral grains, in a black matrix. The chondrules and chondrule fragments appear to be completely serpentinized. Most of the mineral grains are calcite. The matrix consists largely of iron-rich serpentine, made opaque by carbonaceous matter. The meteorite is a C2 chondrite; it is similar to EET90047 and the possibility of pairing should be considered.

Sample No.: EET90992
Location: Elephant Moraine
Dimensions (cm): 1.9 x 1.6 x 0.7
Weight (g): 5.7
Meteorite Type: EL3 chondrite

Macroscopic Description: Cecilia Satterwhite
Twenty percent of the exterior of this chondrite is covered with shiny, brown fusion crust. A few small light-colored and heavily weathered inclusions are visible in the dark gray to black matrix. Oxidation is heavy in areas.

Thin Section (,2) Description: Brian Mason
The section consists mostly of chondrules and chondrule fragments up to 2.1 mm across; they consist of granular or radiating pyroxene, sometimes with a little olivine. The opaque material consists largely of nickel-iron with minor sulfides. Minor weathering is indicated by brown staining and occasional limonite areas. The section is partially rimmed with fusion crust. Microprobe analyses show that most of the pyroxene is close to $MgSiO_3$ in composition, but FeO contents up to 2.7% were recorded. The metal contains 0.7-1.1% Si. One grain of plagioclase, An_9Or_2, was analyzed. The meteorite is classified as an enstatite chondrite, EL3, it is similar to EET90299, and the possibility of pairing should be considered.

Sample No.: EET92100
Location: Elephant Moraine
Dimensions (cm): 1.5 x 1.6 x 0.8
Weight (g): 3.4
Meteorite Type: L3 chondrite (estimated L3.4)

Macroscopic Description: Robbie Marlow
EET92100 has dark brown to black frothy fusion crust covering 95% of its exterior surface. A minute amount of evaporite deposit is present on the exterior surface. The interior matrix is black and evenly textured. Oxidation is minimal.

Thin Section (,3) Description: Brian Mason
The section shows a close-packed aggregate of chondrules (up to 2.4 mm across), chondrule fragments, and mineral grains in a small amount of black matrix which contains a few metal and sulfide grains. A variety of chondrule types is present, the commonest being granular olivine and olivine-pyroxene, porphyritic olivine, and radiating pyroxene. Microprobe analyses show olivine and pyroxene of variable composition; olivine, Fa_{3-39}, mean Fa_{12}; pyroxene, Fs_{5-21}. The meteorite is classified as an L3 chondrite (estimated L3.4).

Sample No.: EET92103
Location: Elephant Moraine
Dimensions (cm): 1.5 x 1.2 x 0.6
Weight (g): 1.5
Meteorite Type: C2 chondrite

Macroscopic Description: Robbie Marlow
Sixty percent of the exterior of EET92103 is covered with dull black fusion crust. The fusion crust is fractured and contains small amounts of evaporite deposit. The interior material is fine-grained with numerous white inclusions that are sub-millimeter in size. Weathering is minimal.

Thin Section (,3) Description: Brian Mason
The section shows small chondrules (up to 0.5 mm across) and occasional mineral grains in a semi-translucent dark brown to black matrix. Most of the chondrules and mineral grains consist of olivine; pyroxene is rare. Microprobe analyses show that most of the olivine is close to Mg_2SiO_4 in composition, with a few more iron-rich grains; one pyroxene grain, Fs3, was analyzed. The matrix appears to consist largely of iron-rich serpentine. The meteorite is a C2 chondrite.

Sample No.: EET92105
Location: Elephant Moraine
Dimensions (cm): 3.4 x 2.4 x 1.5
Weight (g): 18.2
Meteorite Type: CR2 chondrite

Macroscopic Description: Robbie Marlow
This meteorite has dull dark brown fusion crust covering 98% of its exterior. The interior matrix is black and fine-grained. Numerous white and orange inclusions that range in size from sub-millimeter to approximately 3 mm were noted.

Thin Section (,3) Description: Brian Mason
The section shows a close-packed aggregate of chondrules and chondrule fragments, up to 2.9 mm across, in a black matrix which contains 10-20% nickel-iron as globules and rimming chondrules. Fine-grained disseminated troilite is present in small amounts. Some weathering is indicated by limonitic staining in some chondrules. Most chondrules consist of granular or porphyritic olivine or olivine-pyroxene; some have intergranular pale gray glass. Most of the mineral grains are close to Mg_2SiO_4 and $MgSiO_3$ in composition; olivine, Fa_{1-3}; pyroxene, Fs_{1-3}. The meteorite is a C2 chondrite of the Renazzo subgroup; it is confidently paired with the EET87711 group.

Sample No.: EET92121
Location: Elephant Moraine
Dimensions (cm): 2.3 x 2.5 x 1.9
Weight (g): 21.0
Meteorite Type: Highly shocked L6

Macroscopic Description: Cecilia Satterwhite
Black and brown fusion crust covers most of this meteorite. The interior is dark gray to black in color. A thin discontinuous weathering rind is present. EET92121 has a fine-grained texture. A few light colored inclusions and shiny (glassy?) areas were noted.

Thin Section (,4) Description: Brian Mason
The section shows a finely-grained aggregate of olivine and pyroxene (mean grain size about 0.02 mm) with a minor amount of maskelynite, nickel-iron, and troilite. The section is blackened throughout, presumably the result of shock. A few vague indications of chondritic structure were noted. Some weathering is indicated by areas of brown limonite. Olivine and pyroxene are fairly uniform in composition; olivine, Fa_{24}; pyroxene, Fs_{20}. Maskelynite is somewhat variable: CaO 1.1-1.4%; K_2O 1.1-1.3%; Na_2O 3.1-4.9%. The meteorite appears to be a highly shocked L6 chondrite. It is very similar to PAT91504 (AMN 16(1), p. 15, 1993).

Sample No.: EET92126
Location: Elephant Moraine
Dimensions (cm): 2.4 x 1.3 x 0.6
Weight (g): 4.8
Meteorite Type: CO3 chondrite

Macroscopic Description: Cecilia Satterwhite
Black, frothy fusion crust entirely covers this carbonaceous chondrite. The interior is made up of medium to coarse grained, grayish-brown matrix. A few small weathered inclusions are present as is a small amount of metal. Oxidation is evenly scattered throughout the specimen.

Thin Section (,2) Description: Brian Mason
The section shows numerous small chondrules (up to 0.6 mm across), chondrule fragments, and mineral grains, in a black matrix containing minor amounts of nickel-iron and troilite concentrated around chondrule margins. Remnants of fusion crust rim part of the section. Microprobe analyses show much of the olivine near Mg_2SiO_4 in composition, but with individual grains ranging up to Fa_{51}; a little Mg-rich pyroxene is present. The matrix appears to consist largely of iron-rich olivine. The meteorite is classified as a C3 chondrite of the Ornans subtype.

Sample No.: EET92128
Location: Elephant Moraine
Dimensions (cm): 1.3 x 0.6 x 0.6
Weight (g): 1.2
Meteorite Type: CV3 chondrite

Macroscopic Description: Cecilia Satterwhite
Shiny black and frothy fusion crust covers approximately half of this meteorite. The interior matrix is brown/black; metal is present. Oxidation is evident in areas. Minor amounts of evaporite deposit were noted.

Thin Section (,2) Description: Brian Mason
The section shows a variety of chondrules and chondrule fragments (up to 1.2 mm across), and one large clast of granular olivine and pyroxene (maximum dimension 3.6 mm) in a black matrix which contains small amounts of nickel-iron and troilite, mostly on chondrule rims. Part of the section is rimmed by fusion crust. Microprobe analyses show olivine and pyroxene of variable composition: olivine, Fa_{7-15}; pyroxene, Fs_{3-21}. In the clast, olivine composition is Fa_{16-18}, pyroxene $Wo_{10}Fs_{15}$. The matrix appears to consist largely of fine-grained iron-rich olivine admixed with carbonaceous matter. The meteorite is tentatively classified as a C3 chondrite of the Vigarano subtype.

Sample No.: RKP92413; 92416
Location: Reckling Peak
Dimensions (cm): 1.7 x 1.0 x 0.8; 3.7 x 2.5 x 2.0
Weight (g): 1.7; 39.9
Meteorite Type: LL3 chondrite (estimated LL3.7)

Macroscopic Description: Cecilia Satterwhite
Roughly half of each of these specimens is covered with weathered black fusion crust. Evaporite deposit was noted on RKP92416. Abundant small light and dark inclusions are present in the dark gray to black matrix. Oxidation is heavy but metal is still obvious.

Thin Section (RKP92413.2; 92416.2)
Description: Brian Mason
The sections are so similar that a single description suffices; the meteorites are probably paired. The sections show a close-packed aggregate of chondrules and chondrule fragments, up to 2.4 mm across, in a dark matrix which contains accessory amounts of nickel-iron and troilite. Brown limonitic staining pervades the sections. Olivine compositions range from Fa_{21} to Fa_{37}, with a mean of Fa_{28}; pyroxene compositions range from Fs_{10} to Fs_{23}. The meteorites are classified as LL3 chondrite (estimated LL3.7).

Sample No.: RKP92435
Location: Reckling Peak
Dimensions (cm): 2.0 x 1.1 x 0.8
Weight (g): 4.6
Meteorite Type: C chondrite (ALH85085-like)

Macroscopic Description: Robbie Marlow
Dark brown fusion crust covers 95% of the exterior. It is smooth and shiny in areas. This meteorite is heavily weathered. No features were noted in the dark red brown, fine-grained matrix.

Thin Section (,2) Description: Brian Mason
The section shows numerous chondrules, up to 0.2 mm across, abundant pyroxene grains (up to 0.1 mm), and a considerable amount of nickel-iron. The meteorite is severely weathered, with veins and patches of red-brown limonite throughout the section. Most of the pyroxene is close to $MgSiO_3$ in composition, but ranges up to Fs_{19}. The metal contains up to 0.2% Si. The meteorite is a carbonaceous chondrite of the ALH85085 grouplet.

Sample No.: QUE93001; 93002
Location: Queen Alexandra Range
Dimensions (cm): 10 x 7.5 x 6.5; 1.4 x 1.3 x 0.8
Weight (g): 1050.8; 2.6
Meteorite Type: Mesosiderite

Macroscopic Description: Cecilia Satterwhite
Small, dull patches of fusion crust remain on QUE93001 but are gone from 93002. The overall color of the exterior of these two specimens is red-brown. Large and small pyroxene crystals, both green and black in color, are visible on the exterior surfaces. The largest crystal noted in 93001 was 3 x 2 cm in dimension. Numerous fractures penetrate the interior of the specimens making the meteorite easy to break apart. Chipping the specimens revealed an interior that is red-brown, pyroxene-rich, and contains some rounded dark inclusions.

Thin Section (QUE93001.5; 93002.2)
Description: Brian Mason
The sections are identical and evidently represent a single meteorite. They show pyroxene and plagioclase clasts, up to 2.4 mm across, in a matrix of nickel-iron and minor troilite (the nickel-iron

extensively weathered to limonite). Most of the pyroxene is hypersthene, with composition Wo_3Fs_{24}, but a few grains of pigeonite were analyzed. Plagioclase compositions are in the range An_{90-96}. The meteorite is a mesosiderite, and can be confidently paired with QUE86900 (AMN 10(2), 1987).

Sample No.:	QUE93004; 93006
Location:	Queen Alexandra Range
Dimensions (cm):	2.0 x 1.5 x 1; 1.9 x 1.4 x 0.9
Weight (g):	3.5; 2.7
Meteorite Type:	C2 chondrite

Macroscopic Description: Robbie Marlow
Dark black fusion crust almost completely covers QUE93006 but appears as one small patch on 93004. The exterior color of 93004 is greenish-gray. Evaporite deposit is present on 93006. Numerous submillimeter-sized white inclusions were noted in both of these fragments but the matrix of 93004 is black while the matrix of 93006 is dark gray. Both specimens are friable.

Thin Section (QUE93004,3; 93006,2)
Description: Brian Mason
The sections are so similar that a single description will suffice; the meteorites are probably paired. They show scattered chondrules, up to 0.6 mm across, a few irregular aggregates, and small mineral grains in a dark brown to black matrix. The minerals are almost entirely olivine near Mg_2SiO_4 in composition, with a few more iron-rich grains. A little pyroxene near $MgSiO_3$ in composition is present. The matrix appears to consist largely of iron-rich serpentine. The meteorites are a C2 chondrites.

Sample No.:	QUE93005
Location:	Queen Alexandra Range
Dimensions (cm):	3.5 x 1.7 x 1.9
Weight (g):	13.4
Meteorite Type:	C2 chondrite

Macroscopic Description: Robbie Marlow
QUE93005 has dull black fusion crust covering 90% of its exterior. Flow marks are present on all surfaces. Cleaving this specimen revealed a fine-grained, grayish-black interior. Evaporite deposit is present immediately underneath the fusion crust.

Thin Section (,2) Description: Brian Mason
The section shows a few chondrules, up to 0.7 mm across, and numerous small mineral grains in a dark brown to black matrix. Some chondrules consist of granular or porphyritic olivine, but most have been converted to brown serpentine. Fusion crust is present along one edge. Olivine is near Mg_2SiO_4 in composition, with a few more iron-rich grains. Many of the small mineral grains consist of calcite or ferroan dolomite. The matrix appears to consist largely of iron-rich serpentine. The meteorite is a C2 chondrite.

Sample No.:	QUE93007
Location:	Queen Alexandra Range
Dimensions (cm):	1.4 x 1.1 x 0.9
Weight (g):	3.1
Meteorite Type:	CK5 chondrite

Macroscopic Description: Robbie Marlow
Dull black fusion crust covers 40% of the exterior of QUE93007. Traces of evaporite deposit are present. Several white, submillimeter-sized inclusions are visible in the dark gray, fine-grained matrix. This specimen is friable.

Thin Section (,3) Description: Brian Mason
The section shows sparse poorly-defined chondrules, up to 1.8 mm across, in a groundmass of fine-grained olivine with minor plagioclase and opaques (mainly magnetite, with some sulfide). Olivine has a uniform composition, Fa_{31}; plagioclase composition is variable, An_{24-64}; one grain of diopside, $Wo_{42}Fs_{17}$, was analyzed. The meteorite is a C5 of the Karoonda subtype.

Sample No.:	QUE93008
Location:	Queen Alexandra Range
Dimensions (cm):	1.5 x 1.5 x 0.7
Weight (g):	2.9
Meteorite Type:	Howardite

Macroscopic Description: Cecilia Satterwhite
One patch of black fusion crust remains on this achondrite. One large black inclusion which measures approximately 4 x 2 mm is visible on the exterior surface. The interior is a lighter gray than the exterior and contains numerous 1-2 mm, light and dark inclusions. A minor amount of oxidation is present.

Thin Section (,3) Description: Brian Mason
The section shows a brecciated texture, with angular clasts of pyroxene and plagioclase, up to 0.9 mm across, in a fine-grained comminuted groundmass of these minerals. Microprobe analyses show two distinct pyroxene compositions: orthopyroxene of fairly uniform

composition, averaging Wo_2Fs_{25}, and pigeonite of variable composition, Wo_{5-15}, Fs_{40-50}. Plagioclase composition ranges from An_{87} to An_{94}. The presence of the orthopyroxene component indicates that the meteorite can be classified as a howardite.

Sample No.:	QUE93009
Location:	Queen Alexandra Range
Dimensions (cm):	2.0 x 1.5 x 1.7
Weight (g):	12.5
Meteorite Type:	Diogenite

Macroscopic Description: Cecilia Satterwhite

Ninety percent of the exterior of this diogenite is covered with fractured, shiny, black fusion crust. The interior matrix is gray. A few small, angular, black clasts, abundant white (plagioclase?) clasts, and greenish grains are present. One large green inclusion measures 4 x 3 mm.

Thin Section (,6) Description: Brian Mason

The section shows a microbreccia of pyroxene and minor plagioclase, with angular clasts up to 3 mm across in a comminuted groundmass of these minerals. Pyroxene is fairly uniform in composition, averaging Wo_3Fs_{28}; plagioclase composition ranges from An_{84} to An_{90}. The meteorite is a diogenite.

TABLE 4

Natural Thermoluminescence (NTL) Data for Antarctic Meteorites

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Cosmochemistry Group
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The measurement and data reduction methods were described by Hasan et al. (1987, Proc. 17th LPSC E703-E709; 1989, LPSC XX, 383-384). For meteorites whose TL lies between 5 and 100 krad the natural TL is related primarily to terrestrial history. Samples with NTL <5 krad have TL below that which can reasonably be ascribed to long terrestrial ages. Such meteorites have had their TL lowered by heating within the past million years or so (by close solar passage, shock heating, or atmospheric entry), exacerbated, in the case of certain achondrite classes, by "anomalous fading". We suggest that meteorites with NTL >100 krad are candidates for an unusual history involving high radiation doses and/or low temperatures.

Sample	Class	NTL [krad at 250 deg. C]
EET 92002	CK4	2.7 ± 0.4
EET 92042	CR2	22 ± 3
EET 92003	EUC	0.13 ± 0.04
EET 92004	EUC	0.21 ± 0.03
EET 92001	MESO	3 ± 1
EET 92033	H5	33.2 ± 0.1
EET 92035	H5	168 ± 1
EET 92040	H5	113 ± 3
EET 92044	H5	39.0 ± 0.1
EET 92045	H5	10.1 ± 0.1
EET 92041	L5	2.2 ± 0.4
PCA 91157	L5	7.5 ± 0.2
PCA 91169	L5	1.5 ± 0.1
RKP 92405	L5	0.08 ± 0.01
BEC 92601	L6	47.2 ± 0.3
EET 92030	L6	16.4 ± 0.2
EET 92031	L6	29.8 ± 0.5
EET 92032	L6	30.4 ± 0.3
EET 92034	L6	0.16 ± 0.03
EET 92036	L6	30.9 ± 0.1
EET 92037	L6	51.9 ± 0.4
EET 92043	L6	85 ± 1
EET 92046	L6	66.2 ± 0.8
PCA 91219	L6	74.8 ± 0.3
RKP 92404	LL6 3	0.6 ±0.6

The quoted uncertainties are the standard deviations shown by replicate measurements of a single aliquot.

COMMENTS: The following comments are based on natural TL data, TL sensitivity, the shape of the induced TL glow curve, classifications, and JSC and Arkansas group sample descriptions.

EET92003 (Eucrite) is petrologic type 5 (GCA 55, 3831-3844)
EET92004 (Eucrite) is probably shocked and has very similar induced TL properties to the LEW85303 group (GCA 55, 3831-3844).
PCA91157 (L5) may be shocked.

1. Pairings (Confirmations of pairings suggested in AMN 16:2)

CK4: EET92002 with EET87507 group.

2. TL data do not confirm pairings suggested in the Newsletter:

MESO: EET92001 with EET87500 group (AMN 16:2).

3. Additional Pairings suggested by TL data:

EUC: EET92003 and EET87542 (GCA 55, 3831-3844).
L5: PCA91157 with PCA91028 group (AMN 16:2 and 17:1).
L5: PCA91169 with PCA91027 group (AMN 17:1)
L6: EET92030 is possibly paired with the EET87502 group (JGR 99, 2073-2085).
L6: EET92032 with EET90156 group (AMN 16:1).
L6: EET92036 with EET90204 group (AMN 16:1).
L6: EET92043 with EET87549 group (JGR 99, 2073-2085).
LL6: RKP92404 is possibly paired with RKP86704.

TABLE 5

^{26}Al ACTIVITY DATA FOR ANTARCTIC METEORITES

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SPECIMEN NUMBER	CLASS	^{26}Al Activity (dpm/kg)	SPECIMEN NUMBER	CLASS	^{26}Al Activity (dpm/kg)
ALH 84006	H4,5	43.5 ±2.7	ALH 87906	LL6	57.3 ±6.5
ALH 85017	L6	65.8 ±6.8	ALH 90411	L3	57.8 ±4.0
ALH 85021	H5	58.6 ±3.4	DOM 85504	L6	39.1 ±2.7
ALH 85024	H5	60.5 ±2.4	DOM 85506	LL5	53.9 ±3.3
ALH 85033	L4	42.8 ±2.7	EET 87511	URE	41.9 ±3.7
ALH 85036	H6	58.9 ±4.0	EET 87514	C4	31.9 ±2.9
ALH 85043	H5	46.5 ±5.2	EET 87517	URE	64.6 ±2.1
ALH 85044	H6	25.5 ±3.2	EET 87522	C2	40.2 ±6.4
ALH 85045	L3	26.9 ±3.3	EET 87526	C4	52.3 ±5.1
ALH 85062	L3	38.0 ±2.2	EET 87529	C4	45.0 ±7.1
ALH 85076	L6	47.8 ±5.7	EET 87535	L6	64.7 ±3.2
ALH 85121	H3	62.4 ±3.9	EET 87613	L6	60.1 ±4.6
ALH 85145	H5	57.6 ±3.1			

Uncertainties are calculated from counting statistics. All data have been corrected for background effects and counting geometry, and preliminary corrections have been made for sample geometry effects. For more information or to request a copy of the complete Battelle ^{26}Al dataset, please contact John Wacker:
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